What is claimed is:

1. A substrate product for use in the manufacture of active matrix liquid crystal display panels, the product comprising:

a display substrate suitable for use as a display panel, the display substrate having a thickness less than or equal to 0.4mm, a composition that is substantially alkali free, and a surface smoothness that allows the direct formation of thin-film transistors thereon without a prior processing step of polishing and/or grinding; and

at least one support substrate removably attached to the display substrate.

2. The product of claim 1, wherein the thickness of the display substrate is in a range between 0.1mm and 0.4mm.

3. The product of claim 1, wherein the product has an overall thickness that is less than or equal to 0.7mm.

4. The product of claim 1, wherein the product is a glass-on-glass laminate, the at least one support substrate comprising a sacrificial non-display glass composition suitable for chemical dissolution without subsequent damage to the display substrate.

5. The product of claim 1, wherein the product is a glass-on-glass laminate, the at least one support substrate comprising a relatively soft non-display glass composition removable by grinding/polishing without subsequent damage to the display substrate.

6. The product of claim 1, wherein the at least one support substrate is a recyclable glass substrate attached to the display substrate by means of an adhesive.

7. The product of claim 6, wherein the adhesive and the recyclable glass substrate are of a type to withstand thermal, chemical, mechanical, and optical environmental stresses encountered during TFT processing steps.

8. The product of claim 6, wherein the display substrate and the recyclable glass substrate are fusion glass substrates.

9. The product of claim 8, wherein the at least one support substrate is characterized by a large modulus of elasticity relative to the display substrate.

10. The product of claim 8, wherein the recyclable glass substrate includes a diamond like coating (DLC), the DLC being interposed between the recyclable glass substrate and the display substrate.

11. The product of claim 1, wherein the at least one support substrate is characterized by a low density relative to the display substrate.

12. The product of claim 1, wherein the at least one support substrate includes a corrugated surface.

13. The product of claim 1, wherein the at least one support substrate includes a surface having an egg-carton pattern disposed thereon.

14. The product of claim 1, wherein the at least one support substrate includes a plurality of holes.

15. The product of claim 1, wherein the at least one support substrate includes a first support substrate disposed on a first side of the display substrate and a second support substrate disposed on a second side of the display substrate.

16. The product of claim 15, wherein the first support substrate and the second support substrate are comprised of a relatively soft non-display glass composition removable by grinding/polishing without subsequent damage to the display substrate.

17. The product of claim 15, wherein the first support substrate is comprised of a relatively soft non-display glass composition removable by grinding/polishing without

subsequent damage to the display substrate, and the second substrate includes a layer of silicon.

18. The product of claim 17, wherein the second substrate includes a layer of SiO_2 disposed on the display substrate and a layer of silicon disposed on the layer of SiO_2.

19. A method for making a substrate product for use in the manufacture of active matrix liquid crystal display panels, the method comprising:

forming a display substrate suitable for use as a display panel, the display substrate having a thickness less than or equal to 0.4mm, a composition that is substantially alkali free, and a surface smoothness that allows the direct formation of thin-film transistors thereon without a prior processing step of polishing and/or grinding; and

attaching at least one support substrate to the display substrate.

20. The method of claim 19, wherein the step of forming includes melting a first glass composition to form a first molten glass material.

21. The method of claim 20, wherein the step of attaching further comprises:

melting at least one second glass composition to form at least one second molten glass material;

combining the first molten glass material with the at least one second molten glass material while both the first molten glass material and the at least one second molten glass material are in a liquid state to thereby produce a display substrate layer and at least one support substrate layer;

fusing the display substrate layer and the at least one support substrate layer at a temperature at which both the display substrate layer and the at least one support substrate layer are sufficiently fluid to provide a defect free interface therebetween; and

cooling the fused display substrate layer and the at least one support substrate layer to thereby form a glass-on-glass laminate product.

22. The method of claim 21, wherein the at least one support substrate layer is comprised of a sacrificial non-display glass composition suitable for chemical dissolution without subsequent damage to the display substrate layer.

23. The method of claim 21, wherein the at least one support substrate is comprised of a relatively soft non-display glass composition removable by grinding/polishing without subsequent damage to the display substrate.

24. The method of claim 19, wherein the at least one support substrate includes a first support substrate disposed on a first side of the display substrate and a second support substrate disposed on a second side of the display substrate.

25. The method of claim 24, wherein the first support substrate and the second support substrate are comprised of a relatively soft non-display glass composition removable by grinding/polishing without subsequent damage to the display substrate.

26. The method of claim 19, wherein the step of attaching further comprises:

applying an adhesive to the display substrate;

joining the at least one support substrate to the display substrate with the adhesive interposed therebetween; and

curing the adhesive.

27. The method of claim 26, wherein the adhesive and the at least one support substrate are of a type to withstand thermal, chemical, mechanical, and optical environmental stresses encountered during TFT processing steps.

28. The method of claim 26, further comprising the step of disposing a diamond like coating (DLC) on the at least one support substrate prior to the step of applying an adhesive.

29. A method for making an active matrix liquid crystal display panel, the method comprising:

forming a plurality of display substrates suitable for use as display panels, each display substrate having a thickness less than or equal to 0.4mm, a composition that is substantially alkali free, and a surface smoothness that allows the direct formation of thin-film transistors thereon without a prior processing step of polishing and/or grinding;

attaching a support substrate to each display substrate;

producing an active matrix liquid crystal display panel with a first display substrate of the plurality of display substrates and a second display substrate of the plurality of display substrates; and

removing the support substrate attached to the first display substrate and the second display substrate.

30. The method of claim 29, wherein the step of producing further comprises the steps of:

disposing a plurality of thin film transistors on the first display substrate;

disposing the color filter on a second display substrate, the color filter including a red sub-pixel, a green sub-pixel, and a blue sub-pixel for each thin-film transistor disposed on the first display substrate;

placing liquid crystal material between the first display substrate and the second display substrate; and

sealing the first display substrate and the second display substrate.

31. The method of claim 29, further comprising the step of applying a polarizing filter to the active matrix liquid crystal display panel.

32. The method of claim 29, wherein the step of attaching further comprises:

melting a first glass composition to form a first molten glass material;

melting a second glass composition to form a second molten glass material;

combining the first molten glass material with the second molten glass material while both the first molten glass material and the second molten glass material are in a liquid state to thereby produce a display substrate layer and a support substrate layer;

fusing the display substrate layer and the support substrate layer at a temperature at which both the display substrate layer and the support substrate layer are sufficiently fluid to provide a defect free interface therebetween; and

cooling the fused display substrate layer and the support substrate layer to thereby form a glass-on-glass laminate product.

33. The method of claim 32, wherein the step of removing the support substrate includes the step of chemically dissolving the support substrate without subsequent damage to the glass display substrate.

34. The method of claim 32, wherein the step of removing the support substrate includes the step of grinding and/or polishing the support substrate without subsequent damage to the glass display substrate.

35. The method of claim 29, wherein the step of attaching further comprises:

applying an adhesive to the display substrate;

joining the support substrate to the display substrate with the adhesive disposed therebetween; and

curing the adhesive.

36. The method of claim 35, wherein the step of removing the support substrate includes the step of chemically dissolving the adhesive without subsequent damage to the glass display substrate.

37. The method of claim 35, wherein the step of removing the support substrate includes the step of applying a mechanical force to destroy the adhesive bond between the display substrate and the support substrate.

38. An active matrix liquid crystal display panel comprising:

a first display substrate, the first display substrate having a thickness less than or equal to 0.4mm, a composition that is substantially alkali free, and a surface smoothness that allows the direct formation of thin-film

transistors thereon without a prior processing step of polishing and/or grinding;

a second display substrate, the second display substrate having a thickness less than or equal to 0.4mm, a composition that is substantially alkali free, and a surface smoothness that allows the direct formation of thin-film transistors thereon without a prior processing step of polishing and/or grinding; and

liquid crystal material disposed between the first display substrate and the second display substrate.

39. The panel of claim 38, wherein the first display substrate includes thin-film transistors disposed thereon, and the second display substrate includes a color filter disposed thereon, the color filter including a red sub-pixel, a green sub-pixel, and a blue sub-pixel for each thin-film transistor disposed on the first display substrate.

40. The panel of claim 38, wherein the thickness of the first display substrate is substantially within a range between 0.4mm and 0.1mm.

41. The panel of claim 38, wherein the thickness of the second display substrate is substantially within a range between 0.4mm and 0.1mm.